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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/528,986	03/20/2000	Nobuaki Sugita	P101201-00001	5980

7590 01/18/2002

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EXAMINER	
RUTHKOSKY, MARK	
ART UNIT	**PAPER NUMBER**
1745	6

DATE MAILED: 01/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

A3-6

Office Action Summary	Application No.	Applicant(s)	
	09/528,986	SUGITA	
	Examiner	Art Unit	
	Mark Ruthkosky	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 November 2001* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 112

1. The rejection of claim 4 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been overcome by the applicant's amendment.

Claim Rejections - 35 U.S.C. § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-8 stand rejected under 35 U.S.C. 102(a) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wakabe et al. (US 6,136,464).

The rejection is repeated for convenience.

The instant claims are to a sealed battery comprising and electrode generator element, an external casing, a closure cap including a gas release valve with a thin film cover, and a shielding member between the generator element and the thin film cover of the release valve. The shield prevents electrolyte from directly striking the thin film cover and rupturing the film.

Wakabe et al. (US 6,136,464) teaches a sealed battery comprising an electrode generator element, an external casing, a closure cap including a gas release valve with a thin film cover, and a shielding member between the generator element and the thin film cover of the release valve. Two separate valves are taught. In one embodiment, the valve includes a thin film cover which is penetrated by a cutting device (see figures 4, 8, or 9 and col. 6, line 40 through col. 7). In this instance, the lead acts as the cover for vent hole formed between the terminals 104 and 105 of figure 9. The cutting device acts as a parallel barrier formed between the electrode assembly and the cover vent. Figure 4 shows packing located under the penetrating assembly. In the second embodiment of figures 14 A-D, an opening is formed in the cover plate of the battery which is covered with a thin plate and a pressure plate. On the bottom of the opening is a packing material which serves as a barrier formed between the electrode assembly and the cover vent. The packing material is porous which allows for the gas to exit through the vent hole. These material prevent the electrolyte from directly contacting the thin metal cover.

The embodiments of the reference show all of the elements of the instant claims. The reference may not clearly show the embodiment where the shielding member is a plate set in parallel with the thin film where the thin film is on the exterior of the casing elements. It would

be obvious to one skilled in the art at the time the invention was made to combine the embodiments of the invention to include the cutting device as a parallel barrier formed between the electrode assembly and the cover vent wherein the cover vent has a thin metal cover on the exterior of the hole as shown in figure 14. The exterior cover would also prevent the leakage of electrolyte and the cutting device would prevent the direct contact of the electrolyte. Both of these features are found in the embodiments in the reference.

Claim Rejections - 35 U.S.C. § 103

5. Claims 1-2 and 4-5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over JP 07022013 A.

The rejection is repeated for convenience.

JP 07022013 A teaches a battery comprising an electrode assembly and a vented seal structure which prevents electrolyte from scattering and exiting the battery. The vent includes a battery cover with a gas emission hole which prevents bursting of the battery. On the bottom of the hole is a space which is covered by a gasket which will prevent electrolyte from exiting the vent hole. The '013 reference does not teach the cover hole to be covered with a thin film. It is however, covered with a thin metal terminal contact. This combination allows for the gas to safely exit the cell while preventing the electrolyte from exiting through the exit hole. It would be obvious to one skilled in the art at the time the invention was made to include a shielding member for preventing the liquid electrolyte of a battery from exiting the cell or coming into

contact with the casing materials in the event the battery is dropped or struck as the electrolyte may escape the contained casing.

Response to Arguments

6. Applicant's arguments filed 11/19/2001 have been fully considered but they are not persuasive. With regard to the applicant's arguments against the Wakabe (US 6,136,464) reference, the examiner respectively disagrees. In one embodiment (shown in figures 8-9), vent holes exist which are not covered. In a second embodiment (figure 14), the vent holes are covered with a thin sheet of metal. In addition, a barrier layer, shown in figure 14 as packing 207, is provided between the vent-hole, metal, thin-plate and the electrode assembly and, therefore, the reference does teach all of the limitations of the claims. The packing is made of polyethylene or polypropylene resins which are known in the art to be porous (although porosity is not a part of the claimed invention.) The examiner disagrees with applicant's arguments that the gas discharge opening, 231, is provided because the resins are not porous. The gas discharge opening is in the thick cover plate. The opening is covered with a metal thin plate. As pressure builds in the electrode area, the thin plate may rupture and gas is released from the battery. Clearly, the resins act as a barrier layer between the electrode assembly and the metal thin plate. In addition, as noted in col. 7, the pressure-sensing device is resistent to the electrolyte and gasses evolved from the electrochemical unit. A non-corrosive and/or insulating film is described to be plated on corrosive materials if necessary (col 7, lines 1-27.) The patent also

describes a battery wherein all of the safety feature embodiments are incorporated into one cell (see col. 11, lines 20-25.) From these embodiments, the elements are taught to anticipate the instant invention. In addition, the reference teaches the desire and various means to prevent corrosion of the materials.

With regard to the rejection under 35 U.S.C. 103(a) over JP 07022013 A, the examiner agrees that the reference does not anticipate the instant invention. However, the JP 07022013 reference does teach an electrode assembly with a vented seal structure which prevents electrolyte from scattering and exiting the battery. The vent includes a battery cover washer with a gas emission hole. On the bottom of the hole is a gasket which includes a hole and a thin portion, 7a, which prevents electrolyte from contacting the cover washer and exiting the vent hole. The '013 reference does not teach the cover hole to be covered with a thin film. It is however, covered with a thin metal terminal contact. This combination allows for the gas to safely exit the cell while preventing the electrolyte from exiting through the exit hole. The applicant argues that one of ordinary skill in the art would not provide the cell with a shielding member to prevent the liquid electrolyte from exiting the cell, however this point is accounted for in the reference as the gasket acts as the shielding member between the electrode assembly and the cover washer.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Examiner Correspondence

8. Any inquiry regarding this communication or a previous communication should be directed to Examiner Mark Ruthkosky, Ph.D., whose telephone number is (703) 305-0587 or his supervisor, Gabrielle Brouillette, Ph.D., whose phone number is (703) 308-0756. Please note that Examiner Ruthkosky is out of the office the first Friday of each bi-week period.

The art unit 1745 unofficial fax number is 703-306-3186, while the PTO official fax number is 703-305-3599.

GABRIELLE BROUILLETTE
SUPERVISORY PATENT EXAMINER
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